

On the Competition for the Lenin Prize.  
Outstanding Work in the Field of the Theory of  
Stability

S/029/60/000/04/013/032  
B008/B102

of stable systems. Chetayev developed an intensive pedagogical activity. The Kazanskiy aviationsionnyy institut (Kazan' Aviation Institute) was founded thanks to his initiative. Since 1940 he lectured at Moskovskiy universitet (Moscow University) and supervised the work in the field of theoretical mechanics at the Institut mekhaniki Akademii nauk SSSR (Mechanics Institute of the Academy of Sciences, USSR). A number of papers written by him in the field of stability of motion and theoretical mechanics was recommended to be entered in the Lenin prize competition.

ASSOCIATION: Institut mekhaniki AN SSSR (Mechanics Institute of the AS USSR)

✓

Card 2/2

L 4359-66 EWT(d) IJP(c)	ACC NR: AP5028413	SOURCE CODE: BU/0011/65/018/001/0005/0006
AUTHOR: Plotnikova, G.; Baynov, D.		44,55 44,55 44,55 30 B
ORG: Institute of Mechanics, AN SSSR, Moscow (Institut mehaniki, AN SSSR); Machine-Electrotechnical Institute, Sofia (Mashinno-elekrotekhnicheskiy institut)		
TITLE: Solvability with respect to higher derivatives of a system of differential equations dependent on a small parameter		
SOURCE: Bulgarska akademiya na naukite. Doklady, v. 18, no. 1, 1965, 5-6		
TOPIC TAGS: differential equation, small parameter, motion equation		
ABSTRACT: [Russian article] The authors investigate the mechanical system with n degrees of freedom whose equations of motions are of the form.		
$\ddot{x} + m^2 x = f + \mu F(t, x, \dot{x}, \ddot{x}, \mu) \quad (1)$		
Here f, F, x, $\dot{x}$ , and $\ddot{x}$ are n-dimensional vectors while $m^2$ is represented by an n-dimensional diagonal matrix. The components of f are assumed continuous periodic functions of time (of period $2\pi$ ), the components of F are analytic functions with respect to all its arguments and are continuous functions of time (with the same periodic $2\pi$ ), and the quantity $\mu$ represents a small parameter. This paper presents the reduction of (1) to the normal system		
Card 1/2		

L 4359-66

ACC NR. AP5028413

$$\ddot{x} + \omega^2 x = f_1 - \mu \tilde{F}(t, x, \dot{x}, \mu), \quad (2)$$

whose properties are well known. The existence and stability conditions of the periodic solutions of (2) can then be used directly for the study of system (1). The paper was presented by Academician Kh. Khristov 26 Aug 64. Orig. art has: 8 formulas. [JPRS]

SUB CODE: MA / SUBM DATE: 26Aug64

Card 2/2

PLOTNIKOVA, G., aspirant; KHMELEVSKIY, I., aspirant

Outstanding works on the theory of stability. Tekh.mol. 28  
no.4:11 '60. (MIRA 13:11)

1. Institut mekhaniki AN SSSR.  
(Stability) (Chetaev, Nikolai Gur'evich, 1902-1959)

PLOTNIKOVA G.I.  
BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.; PLOTNIKOVA, G.I.

Dephenolizing tar water with vinyl ethers. Zhur.prikl.khim.  
30 no.12:1872-1874 D '57. (MIRA 11:1)  
(Ethers) (Coke industry) (Phenols)

BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.; PLOTNIKOVA, G.I.

Reaction of diacetylene with ethyl mercaptan, and some properties  
of its products. Dokl. AN SSSR 120 no. 2:301-304 My '58.(MIRA 11:7)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
Predstavлено академиком B.A.Kazanskim.  
(Butadiyne)  
(Ethanethiol)

AUTHORS: Bogdanova, A. V., Shostakovskiy, M. F., Plotnikova, G. I.

TITLE: The Interaction Between Diacetylene and Ethyl Mercaptan, and Some Properties of the Compounds Obtained (Vzaimodeystviye diatsetilena s etilmerkantanom i nekotoryye svoystva poluchennykh soyedineniy)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 120, Nr 2, pp. 301-304 (USSR)

ABSTRACT: Several ethynyl-vinyl-ethers (References 1,3) were produced by synthesis on a diacetylene basis. They are interesting from the point of view of their reactivity and the possibility of producing 1-alcoxy-butadiene-1,3 (Reference 4). It was interesting to investigate the interaction mentioned in the title, as publications on this problem are restricted to one single patent mentioned (Reference 5). The authors obtained this interaction already on slight heating; under the influence of alkali the reaction already begins at room temperature and is accompanied by self-heating. There are

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The Interaction Between Diacetylene and Ethyl Mercaptan, and Some Properties of the Compounds Obtained

SOV/20-120-2-20/63

proofs that the first stage of the interaction under review takes place according to an ionic mechanism. According to the ratio of initial substances and the temperature the reaction follows scheme (I) or is accompanied by the formation of ethynyl-vinyl-thioethyl-ether and a product of the addition of 2 mercaptan-molecules which has a butadiene-structure (scheme (II)). The interaction takes a stepwise course, as the second stage can also take place independently with another mercaptan. The addition of mercaptan to the ethynyl-vinyl-thioethyl-ether may take place under the influence of different reagents (alkali, HCl, radical-initiators and heating). In the last 2 cases the yields of the final product are higher. Thus this addition reaction takes place more advantageously according to a radical mechanism than according to an ionic mechanism. The chief products in this connection are dithio-alkyl-butadiene-1,3. A certain difference of the physical constants and a strong exaltation of the molecular refraction of the addition product of 2 mercaptan-molecules to diacetylene

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The Interaction Between Diacetylene and Ethyl Mercaptan, and Some Properties of the Compounds Obtained SOV/20-120-2-20/63

is apparently explained by the presence of 2 isomeric compounds, others than those with a butadiene-structure also being possible among them. Ethynyl-vinyl-thioethyl-ether reacts with a sublimate solution in alcohol and quantitatively forms ethyl-mercapto-mercury-chloride, an equivalent amount of HCl and apparently ethyl-vinyl-ethyl-ether. Thus this method can be employed for the determination of ethynyl-vinyl-thio-alkyl-ethers. In a kind of experimental part details of the reactions, constants and yields are described under conditions of: a) interaction of diacetylene with ethyl-mercaptop-tan; b) decomposition of ethynyl-vinyl-ether and the product with 2 mercapto-groups by sublimate solution in alcohol (table 2); c) hydrolysis of the latter ether and the 2-mercaptop-group product in the presence of sublimate (table 3); d) interaction of ethynyl-vinyl-thioethyl-ether with ethyl-mercaptop-tan and thio-phenol (table 4); e) condensation with maleic anhydride.

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The Interaction Between Diacetylene and Ethyl Mercaptan, and Some Properties of the Compounds Obtained SOV/20-120-2-20/63

There are 4 tables and 9 references, 7 of which are Soviet.

ASSOCIATION:

Institut organicheskoy khimii im. N. D. Zelinskogo  
Akademii nauk SSSR  
(Institute of Organic Chemistry imeni N. D. Zelinskogo,  
AS USSR)

PRESENTED:

January 8, 1958, by B. A. Kazanskiy, Member, Academy of Sciences, USSR

SUBMITTED:

January 7, 1958

1. Acetylenes--Chemical reactions    2. Thiols--Chemical reactions  
3. Ethers--Synthesis    4. Cyclic compounds--Properties

Card 4/4

BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.F.; PLOTNIKOVA, G.I.

Stereo-oriented syntheses based on diacetylene, and isomeric conversions of 1,4-bis (arylthio)-1,3-butadienes and their disulfones. Dokl. AN SSSR 136 no. 3:595-598 Ja '61. (MIRA 14:2)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.
2. Chlen-korrespondent AN SSSR (for Shostakovskiy).  
(Butadiyne) (Butadiene) (Sulfones)

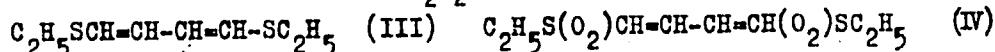
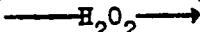
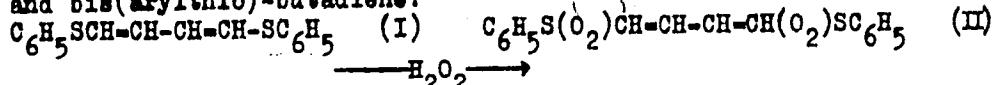
5 (3)

AUTHORS: Shostakovskiy, M. F., Bogdanova, A. V., SOV/62-59-8-35/42  
Plotnikova, G. I.

TITLE: Letter to the Editor

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1959, Nr 8, p 1505 (USSR)

ABSTRACT: The authors state in this letter to the editor that they were able to synthesize the bis-thiobutadiene into disulfones while preserving the diene structure, starting from the synthesis (Ref 2) for the first time carried out by them of bis(alkylthio)- and bis(arylthio)-butadiene:



Physical data and elementary composition of the two compounds are given. There are 3 references, 2 of which are Soviet.

Card 1/2

Letter to the Editor

SOV/62-59-8-35/42

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk  
SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo,  
Academy of Sciences, USSR)

SUBMITTED: May 7, 1959

Card 2/2

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Investigations of diacetylene derivatives. Reactions of diacetylene  
with phenols, thiophenol and benzyl alcohol. Dokl. AN SSSR 124  
no.1:107-110 Ja '59. (MIRA 12:1)

1. Institut organicheskoy khimii imeni N.D. Zelinskogo AN SSSR.  
Predstavleno akademikom B.A. Kazanskim.  
(Butadiyne) (Phenol) (Benzyl alcohol)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; DUBROVA, Ye.V.

Low-molecular polymerization. Report No.3: Reaction between vinyl  
ether and carbon tetrachloride. Izv. AN SSSR Otd. khim.nauk no.6:  
756-759 Je '58. (MIRA 11:8)

1. Institut organicheskoy khimii im. N.D. Zelinskogo AN SSSR.  
(Carbon tetrachloride) (Vinyl ether)

AUTHORS: Shostakovskiy, M. F., Bogdanova, A. V., SOV/62-58-6-16/37  
Plotnikova, G. I., Dubrova, Ye. V.

TITLE: Investigation in the Field of Low-Molecular Polymerization  
(Issledovaniye v oblasti nizkomolekulyarnoy polimerizatsii)  
Communication 3. Interaction Between Divinyl Ether and  
Carbon Tetrachloride (Soobshcheniye 3. Vzaimodeystviye  
divinilovogo efira s chetyrekhkloristym uglerodom)

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye khimicheskikh nauk,  
Nr 6, pp. 756-759 (USSR)

ABSTRACT: The investigation of the properties of tetrachloropropyl-  
alkyl- and tetrachloropropylaryl ethers (Refs 1,2), which was  
carried out by the authors, showed that these compounds,  
because of the mobility of  $\alpha$ -chlorine, are similar to  
 $\alpha$ -chloric ethers with respect to their reactivity. However,  
the presence of 3 chlorine atoms in their molecule (in the  
 $\gamma$ -situtation) renders this molecule more stable, and all  
transformations of these compounds are bound to lead to the  
formation of  $\beta$ -dichloroacrolein derivatives. It was  
interesting for the authors to compare the properties of  
already previously obtained tetrachloropropylalkyl ethers with

Card 1/3

Investigation in the Field of Low-Molecular  
Polymerization. Communication 3. Interaction  
Between Divinyl Ether and Carbon Tetrachloride

SOV/62-58-6-16/37

the properties of the products of the compound composed of carbon tetrachloride and divinyl ether. The conditions of the interaction between divinyl ether and carbon tetrachloride under the influence of benzoyl peroxide and nitryl azobutyrate are investigated. Conditions for the formation of 1,3,3,3-tetrachloropropylvinyl- and bis-(1,3,3,3-tetrachloride) propyl ethers were established. Moreover, the separated ethers are characterized and structure of tetrachloropropylvinyl ether was determined by hydrolysis. The increased resistivity of bis-(tetrachloride) propyl ether in the reactions of hydrolysis was demonstrated. There are 1 table and 10 references, 7 of which are Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo, AS USSR)

SUBMITTED: December 25, 1956

Card 2/3

Investigation in the Field of Low-Molecular  
Polymerization. Communication 3. Interaction  
Between Divinyl Ether and Carbon Tetrachloride

SOV/62-58-6-16/37

1. Divinyl ethers--Chemical reactions    2. Carbon tetrachloride--Chemical reactions  
3. Ethers--Properties    4. Benzoyl peroxide--Chemical effects    5. Nitrobutyrates  
--Chemical effects

Card 3/3

5(3)

AUTHORS: Shostakovskiy, M. P., Bogdanova, A. V., Plotnikova, G. I. SOV/20-124-1-30/69

TITLE: Investigation in the Field of Diacetylene Derivatives (Issledovaniye v oblasti proizvodnykh diatsetilena) Interaction Between Diacetylene and Phenols, Thiophenol and Benzyl Alcohol (Vzaimodeystviye diatsetilena s fenolami, tiofenolom i benzilovym spirtom)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 107 - 110 (USSR)

ABSTRACT: The authors had earlier reported on syntheses based on diacetylene with aliphatic and hydro-aromatic alcohols as well as with ethyl mercaptan (Refs 1,2). In order to introduce the corresponding aryl derivatives into the substances available the authors tried to add phenol to the diacetylene. These two substances, however, did not react together according to the usual scheme under conditions suitable for alcohols. The authors wanted to investigate the reaction mentioned in the subtitle. They wanted to eliminate the influence of the benzene nucleus which is caused by the oxygen atom. This

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Investigation in the Field of Diacetylene Derivatives. SOV/2o-124-1-3o/69  
Interaction Between Diacetylene and Phenols, Thiophenol and Benzyl Alcohol

was expected to be changed by means of the sulfur atom in thiophenol and by the distance of the benzene nucleus from the oxygen. In fact, both reactions proceeded smoothly under gentle conditions (1). The junction of the second molecule of the benzyl alcohol or of thiophenol forms the next stage of the reaction and can also proceed independently. In the case of benzyl alcohol, this stage proceeds according to the ionic mechanism. Butinal-dibenzyl-acetal  $\text{CH}_3\text{-C}=\text{C-CH(OCH}_2\text{C}_6\text{H}_5)_2$  (III) is formed. In the case of thiophenol the second stage of the interaction with diacetylene proceeds mainly under the influence of radical initiators. Dithio derivatives of butadiene-1,3 are formed. Thus, either thiophenol or ethyl mercaptan is added to ethyl vinyl thiophenyl ether yielding dithiophenyl- and thiophenyl-thioethyl-butadiene-1,3 (2), respectively. This reaction is accelerated by KOH, azo-isobutyric acid-nitrile or by increased temperature. The yield of the end products depends on the temperature and on the initiator. Dithiophenyl- and thiophenyl-thioethyl-butadiene-1,3 undergo the diene synthesis with maleic acid anhydride, forming adducts that

Card 2/3

Investigation in the Field of Diacetylene Derivatives. SOV/20-124-1-30/69  
Interaction Between Diacetylene and Phenols, Thiophenol and Benzyl Alcohol

lose two mercaptan molecules and forming phthalic anhydride  
(Refs 2,6). An experimental section (not designed as such)  
ensues. There are 3 tables and 6 references, 4 of which are  
Soviet.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii  
nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskiy  
of the Academy of Sciences, USSR)

PRESENTED: May 17, 1958, by B. A. Kazanskiy, Academician

SUBMITTED: May 15, 1958

Card 3/3

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Addition of alcohols and mercaptans to the compounds with triple bonds. Usp.khim. 33 No.2:129-150 F '64.

1. Institut organicheskoy khimii imeni N.D.Zelinskogo AM SSSR.  
(MIRA 17:10)

ACCESSION NR: AP4010042

S/0062/64/000/001/0127/0132

AUTHOR: Dolgikh, A. N.; Bogdanova, A. V.; Plotnikova, G. I.;  
Ushakova, T. M.; Shostakovskiy, M. F.TITLE: Investigation of diacetylene derivatives  
Report 10. Interaction between ethinylvinylthioethers and water

SOURCE: AN SSSR. Izvestiya. Ser. khim., no. 1, 1964, 127-132

TOPIC TAGS: diacetylene derivatives, ethinylvinylthioethers,  
ethinylvinylalkyloxo, thio or nitroethers, triple bond reactivity,  
cix-configuration, keto-enol resonance, enol stabilization, thio-  
vinyl group, thioketo group, mercaptan addition productsABSTRACT: Since the compounds  $\text{CH}\equiv\text{C}-\text{CH}=\text{CH}-\text{OR}$  do not react with water  
in a neutral medium even under heating, hydration of the triple bond  
proceeded under the influence of  $\text{HgSO}_4$  and heat to form the corres-  
ponding 2-acetylvinylalkylsulfides and their tautomeric 3-oxybuta-  
diene-1,3-yl-acetylvinylalkylsulfides, a new series of diacetylene

Card 1/2

ACCESSION NR: AP4010042

derivatives. The possibility of keto-enol tautomerism of the derivatives and conditions for stabilization of the enol form - cis-configuration and bond formation between the H of the OH-group and S, resulting in a six-membered ring - are discussed. The IR spectra confirmed presence of the cis-configuration. Acid hydration (10%  $H_2SO_4$ ) yielded mainly 2-acetylvinylalkylsulfide. In the interaction with water, in compounds of the type  $CH\equiv C-CH=CH-XR$  where X = S, O, N, the sulfur atom, like O or N, increased the reactivity of the triple bond, compared to that in vinylacetylene. This influence appeared in the order N > O > S. The syntheses are described, as are yields and end products. Orig. art. has: 8 formulas.

ASSOCIATION: none

SUBMITTED: 22Aug63 DATE ACQ: 14Feb64 ENCL: 00  
SUB CODE: CH NO REF Sov: 011 OTHER: 005

Card 2/2

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Synthesis of mercaptals and dimercaptals of different aldehydes  
from corresponding acetals. Izv.AN SSSR Otd.khim.nauk no.8:1524  
(MIRA 15:5)  
Ag '60.

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Mercaptals)

BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; SHOSTAKOVSKIY, M.F.

Reactivity of acetals and ionic telomerization. Usp.khim. 31  
no.10:1165-1178 0 '62. (MIRA 15:11)

1. Institut organicheskoy khimii AN SSSR imeni Zelinskogo.  
(Acetals) (Polymerization)

DOLGIKH, A.N.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; USHAKOVA, T.M.;  
SHOSTAKOVSKIY, M.F.

Derivatives of diacetylene. Report No.10: Interaction of ethinyl  
vinyl thioethers with water. Izv.AN SSSR. Ser.khim. no.1:127-132  
Ja '64. (MIRA 17:4)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.

SHOSTAKOVSKIY, M.G.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Diene synthesis of 1,4-dithioethyl-1,3-butadiene with cyclopentadiene.  
Izv.AN SSSR Otd.khim.nauk no.8:1514-1516 Ag '60. (MIRA 15:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Butadiene) (Cyclopentadiene)

BOGDANOVA, A.V.; SHOSTAKOVSKIY, M.G.; PLOTNIKOVA, G.I.

Synthesis of unsaturated ether acetals, thioether acetals, and mercaptals. Dokl. AN SSSR 134 no.3:587-590 S '60. (MIRA 13:9)

1. Institut organiceskoy khimii im. N.D. Zelinskogo Akademii nauk SSSR. 2. Chlen-korrespondent AN SSSR (for Boganova).  
(Acetals) (Mercaptals)

PILOT NIKOVA, G.D.

Low-molecular polymerization I Reaction mechanism of some simple vinyl ethers with caffen Verschilidina M. I. Shvetzova  
A. I. KIRILOV A. V. SOKOLOV Institute of Polymers of the  
Academy of Sciences USSR, Moscow, 1970, p. 147-152  
and references therein. The reaction mechanism of the low-molecular  
polymerization of vinyl ethers with caffen Verschilidina was studied  
and the polymer products according to conditions and ratio of  
materials. Synthesis of 95% yield of 1 : 3 : 3-tetrachloro-  
propyl phenyl ether was achieved at 70-75° with ratio of 1 to  
 $CCl_4$  1 : 4 and by use of 0.0045 mol/l of  $FeCl_3$ . A fraction of nitrite  
from the reaction mixture separated with b.p. 145-145.5°. The  
polymers in the reaction mixture decomposed as transparent orange  
coloured products, decomposing at 125° with separation of  $HCl$   
and forming resinous products; they dissolved in methanol and  
benzene but not in gasoline. Synthesis was made of 1 : 3 : 3  
tetrachloropropyl butyl and 1 : 3 : 3-tetrachloropropyl ethyl  
ethers with II and III in similar conditions. Polymer products  
were light yellow transparent and viscous; they dissolved in ether  
and other org. solvents (from II not in MeOH). Mol. wt. of III  
~890. According to mol. ratio of vinyl ethers to  $CCl_4$ , so the yield  
(With ratio of ether to  $CCl_4$  1 : 4, proportionately high yields of  
tetrachloropropyl products were obtained) Hydrolytic cleavage  
and the reaction with alcohol indicated the mobility of  $\alpha$ -Cl in  
1 : 3 : 3-tetrachloropropyl ether. A. L. B.

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; DOLGIKH, A.N.

Method of synthesizing mercaptol esters and tritiated esters of orthoformic acid. Izv. AN SSSR Otd. khim. nauk no.10:1901 0 460. (MIRA 13:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo Akademii nauk SSSR.

(Orthoformic acid)

SHOSTAKOVSKIY, M.F.; BOGDANOVA, A.V.; PLOTNIKOVA, G.I.

Study of diacetylene derivatives. Report No.8: Reactions of ethynyl vinyl and thioethynyl vinyl ethers with carbonyl compounds. Izv.AN SSSR.Otd.khim.nauk no.5:905-909 My '61. (MIRA 14:5)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Ether) (Carbonyl compounds)

BOGDANOVA, A.V.; PLOTNIKOVA, G.I.; YAKOVLEV, I.P.

Derivatives of diacetylene. Report No.9: Synthesis of unsaturated alkoxy- and thioalkyl acetals having C<sub>7</sub> - C<sub>15</sub> carbon chain in their molecule. Izv.AN SSSR.Otd.khim.nauk no.10:1841-1846 O '61.  
(MIRA 14:10)

1. Institut organicheskoy khimii im. N.D.Zelinskogo AN SSSR.  
(Acetals) (Butadiyne)

53620 1153 1306 2209

86415  
S/062/60/000/008/030/033/XX  
B013/B055

AUTHORS: Shostakovskiy, M. F., Bogdanova, A. V., and Plotnikova, G.L.

TITLE: On the Diene Synthesis of 1,4-Dithioethyl 1,3-Butadiene  
With Cyclopentadiene

PERIODICAL: Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk,  
1960, No. 8, pp. 1514-1516

TEXT: This is a brief communication on the diene synthesis of 1,4-di-thioethyl 1,3-butadiene with cyclopentadiene. The ratio of the initial substances and the time or reaction were varied in the experiments. The synthesis proceeds by stages, addition products being formed which contain varying numbers of cyclopentadiene molecules per dithioethyl-butadiene molecule. The ratio of these addition products depends on the ratio of the initial substances and duration of heating. Three addition products were separated from the reaction mixture. The first, formed by reaction of one cyclopentadiene molecule with one molecule of the diene investigated, reacted readily with an alcoholic sublimate solution with quantitative formation of ethylmercapto mercury chloride and HCl, which

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On the Diene Synthesis of 1,4-Dithioethyl 1,3-  
Butadiene With Cyclopentadiene S/062/60/000/008/030/033/XX  
B013/B055

can be easily titrated with 0.1 N NaOH. This indicates the presence of a vinylthioethyl group. (I) may therefore be assigned the structure of a 2-thioethyl 3-vinylthioethyl bicyclo(2,1,2)-5-heptene. The second product (II) contains two cyclopentadiene molecules per dithioethyl-butadiene molecule. Neither it nor the third product react with alcoholic sublimate solution. The second product may be regarded as bis[2-thioethyl-bicyclo(2,1,2)-5-heptene]. According to its composition and constants, compound (III) is [1,4,5,8-diendomethylene-2-thioethyl-3-(2'-thioethyl)-bicyclo(2',1',2')-5'-heptene]. The preparation of analytically pure samples was rendered very difficult owing to the formation of cyclopentadiene polymers which are very soluble in the addition products. The 1,4-dithioalkyl(aryl) 1,3-butadienes prepared from diacetylene, which give the typical diene reaction with maleic anhydride, exhibit dienophilic properties in the diene synthesis with cyclopentadiene. There are 1 table and 6 Soviet references.

ASSOCIATION: Institut organicheskoy khimii im. N. D. Zelinskogo Akademii nauk SSSR (Institute of Organic Chemistry imeni N. D. Zelinskogo of the Academy of Sciences USSR)

SUBMITTED: January 19, 1960  
Card 2/2

BOGOMOLOV, Gerasim Vasil'yevich; YANSHINA, Mariya Sergeyevna, akademik;  
PLOTNIKOVA, Galina Nikolayevna; FLEROVA, Lyusia Igorevna;  
GARMONOV, I. V., doktor geol.-miner. nauk, red.; BEL'ZATSKAYA, L.,  
red, izd-va; ATLAS, A., tekhn. red.

[Underground water in the central and western parts of the Russian Platform (Paleozoic)] Podzemnye vody tsentral'noi i zapadnoi chastei Russkoi platformy (paleozoii). [By] G.V. Bogomolov i dr. Minsk, Izd-vo Akad. nauk BSSR, 1962. 167 p. (MIRA 16:1)

1. Akademiya nauk BSSR, Minsk. Laboratoriya gidrogeologicheskikh problem imeni F.P.Savarenetskogo.  
(Russian Platform—Water, Underground)

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; TITOVA, Ye.A.

Silica in the underground waters of some regions of the Russian Platform. Dokl. AN BSSR 8 no.11:731-735 N '64.

(MIRA 18:3)

I. Laboratoriya Geokhimicheskikh problem AN BSSR i Geologicheskiy institut AN SSSR.

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; TITOVA, Ye.A.

Content of silica in underground waters in the regions of recent  
volcanism and the latest tectonic movements in the U.S.S.R. Dokl.  
AN BSSR 8 no.12:802-805 D '64. (MIRA 18:4)

1. Laboratoriya geokhimicheskikh problem AN BSSR i Geologicheskiy  
institut AN SSSR.

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; TITOVA, Ye.A.

Silica in the underground waters of some foreign countries.  
Dokl. AN BSSR 9 no.2:105-107 F '65. (MIRA 18:5)

1. Laboratoriya geokhimicheskikh problem AN BSSR i Geologicheskiy  
institut AN SSSR.

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; FLEROVA, L.I.

Paleohydrogeological conditions governing the formation of  
underground waters in the Moscow Artesian Basin and adjacent areas.  
Trudy Lab.gidrogeol.probl. 45:3-22 '62. (MIRA 15:6)  
(Water, Underground)

BOGOMOLOV, G.V.; PLOTNIKOVA, G.N.; FEROVA, L.I.

Methods of compiling paleohydrogeological maps as revealed by the  
studies in the Moscow Artesian Basin. Trudy Lab.gidrogeol.probl. 45:  
23-26 '62. (MIRA 15:6)  
(Water, Underground—Maps)

PLOTNIKOVA, G. P.

New species of fungus gnats (Diptera, Fungivoridae s. l.)  
from Western Siberia. Ent. oboz. 41 no.4:889-900 '62.  
(MIRA 16:1)

1. Kafedra zoologii bespozvonochnykh Tomskogo universiteta,  
Tomsk.

(Siberia, Western—Fungus gnats)

PLOTNIKOVA, G. P.; MIRKOVICH, R. A.; ANDRYUNINA, K. N.

Practices in finishing boards made from wood chips by using  
polymethyl methacrylate coatings under industrial conditions.  
Der. prom. 12 no.2:24-25 F '63. (MIRA 16:4)

1. TSentral'nyy nauchno-issledovatel'skiy institut fanery i  
mebeli (for Mirkovich). 2. Apsheronskiy domostroitel'nyy  
fanery kombinat(for Andryunina).

(Methacrylic acid) (Wood finishing)  
(Hardboard)

POLUBOYARINOV, O.I.; PLOTNIKOVA, G.P.

Improving the properties of wood affected by rotting. Der.prom.  
11 no.12:8-9 D '62. (MIRA 16:1)

1. Lesotekhnicheskaya akademiya im. Kirova (for Poluboyarinov).
2. Tsentral'nyy nauchno-issledovatel'skiy institut sanery i mebeli  
(for Plotnikova).

(Wood—Preservation)

BURESEVA, L.R.; FIOCHIEVA, G.P.; KRASIL'SHCHIKOV, A.I. (Moscow)

Partiality and transcrystallite corrosion of titanium aluminide nitride  
alloys. Part 3. Zhar, fiz., khim. 33 no. 3: 1956-1962. April 1964.

(MIA 18:1)

L. Gosudarstvennyy Institut avtovoy promyslennosti.

PLOTNIKOVA, G.P.; PIVOVICH, R.A.; ZABRODKIN, A.G.

Adhesive films in the furniture industry. Der.prom. 6 no.7:7-9  
J1 '57. (MLPA 10:8)

1.TSentral'nyy nauchno-issledovatel'skiy institut fanery i mebeli.  
(Gums and resins, Synthetic) (Furniture industry) (Gluing)

TEMKINA, P.Z., starshiy nauchnyy sotrudnik; PLOTNIKOVA, G.P., starshiy nauchnyy sotrudnik; MIKHOVICH, P.A., starshiy nauchnyy sotrudnik; POSPELOVA, G.L., red.; SHENDAREVA, L.V., tekhn. red.; KOLOMETYER, V.Z., tekhn. red.

[Fillers for adhesive urea resins and protein-base glues] Napolnite-  
li dlia kleiashchikh karbamidnykh smol i belkovykh kleev. Moskva,  
TSentr. biuro tekhn. informatsii bumazhnoi i derevoobrabatyvaiu-  
shchei promyshl., 1958. 13 p. (MIRA 11:10)

1. Tsentral'nyy nauchno-issledovatel'skiy institut fanery i mebeli.  
(for Temkina, Plotnikova, Mirkovich).  
(Glue) (Veneers and veneering)

L-21328-65 EWT(m)/EWA(d)/EWP(t)/EWP(b) BSD/ASD(2)-3/ASD(m)-3/AFMDC JD/WB

ACCESSION NR: AP4044438

S/0076/64/038/008/1956/1962

AUTHOR: Burtseva, I. K. (Moscow); Plotnikova, G.P. (Moscow); Krasil'shchikov, A.I. (Moscow)

TITLE: Passivation and intercrystalline corrosion of stainless steel in nitric acid III. Potentiostatic method for obtaining anodic polarization curves

SOURCE: Zhurnal fizicheskoy khimii, v. 38, no. 8, 1964, 1956-1962

TOPIC TAGS: metal corrosion, stainless steel, passivation, overpassivation, polarization curve

ABSTRACT: Due to the high content of chromium in stainless steel it is easily passivated in nitric acid. The diversity of opinions on intercrystalline corrosion of stainless steel in nitric acid has stimulated this investigation. Half of the samples were annealed at 650°C for three hours to increase intercrystalline corrosion. The second half of the stainless steel samples were investigated in the hardened state. The potentiostatic method was used for obtaining polarization curves. In the passivation region no intercrystalline corrosion was detected on any of the

Card 1/2

L 21328-65  
ACCESSION NR: AP4044438

investigated stainless steels at 60C in the course of 1500 hours of testing. In the overpassivation region all of the investigated steels, regardless of composition and structure were subject to intercrystalline corrosion. The precipitation of chromium carbides facilitates overpassivation and initiation of intercrystalline corrosion. Orig. art. has: 3 tables and 6 figures.

ASSOCIATION: Gosudarstvennyy institut azotnoy promyshlennosti (State Institute of the Nitrogen Industry)

SUBMITTED: 28Jul63

ENCL: 00

SUB CODE: GC, MM

NR REF SOV: 015

OTHER: 007

2/2

L 14461-66 EWT(m)/EWP(j) RM  
ACC NR: AP6002969 (A)

SOURCE CODE: UR/0286/65/000/024/0140/0140

INVENTOR: Volkov, Yu. N.; Smirnov, P. N.; Plotnikova, G. P.

ORG: none

TITLE: A device for applying finishing compounds to paper. Class 55, No. 177273  
[announced by the Central Scientific Research Institute of Furniture and Plywood  
(Tsentral'nyy nauchno-issledovatel'skiy institut fanery i mebeli)]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 140

TOPIC TAGS: paper industry machinery, finishing machine, paper

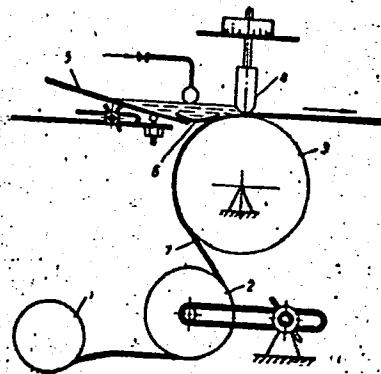
ABSTRACT: This Author's Certificate introduces a device for applying finishing compounds based on water dispersion polymers to paper. The device contains a bobbin for unwinding the roll of paper, a tension roller, a takeup roller for the paper web and a wiper blade. The thickness of the coating is controlled by mounting a feeder table in front of the wiper blade and using a flexible plate with one end connected to the feeder table and the other end riding on the paper web.

UDC: 676.51.051

Card 1/2

I 14461-66

ACC NR: AP6002969



1 - bobbin; 2 - tension roller; 3 - takeup roll; 4 - wiper  
blade; 5 - feeder table; 6 - flexible plate; 7 - paper web.

SUB CODE: 11, 13/

SUBM DATE: 13 May 64

Card 2/2

PIOTNIKOVA, G.P.; MIRKOVICH, R.A.; MIKLYAK, N.N.

Coating on the basis of polymethyl methacrylate latex for  
finishing door boards from particle boards. Des. prom. 14  
no.4:21-22 Ap '65. (MIRA 18:5)

BULGAKOVA, A.M.; VOLKOVA, A.M.; PLOTNIKOVA, G.S.

Determination of small amounts of thallium in single crystals  
of sodium iodide activated by thallium. Trudy IRE no.23:  
102-105 '59. (MIRA 13:?)

(Sodium iodide crystals)  
(Thallium--Analysis)

## PAGE 1 BOOK EXPLANATION

SO/MS/DO

**Editor:** Vsesoyuzny nauchno-issledovatel'skiy institut khimicheskikh reakcii  
 Vostochnaya Evropy (editor-in-chief); **series:** (High Purity Substances  
 and Alloys); **Collection 1:** reaktivy (High Purity Substances  
 and Alloys); Collection 2: Noorgo, Gomel'sk, 1957.  
 150 p. (Series: 1st printing, VP-23) Errata slip inserted.  
 1,700 copies printed.

**Sponsoring Agency:** USSR. Sovet Ministerov. Gosudarstvennyy komitet po nauchno-

Institutes for Chemical Researches (GKKhR). **Contributors:** articles by scientists which may be adopted  
 by different branches of industry as production, analytical, and scientific methods  
 grade and organic substances of high purity. Prepared tables and references  
 accompany each article. No permissions are required.

**PURPOSE:** This book is intended for personnel of chemical research and industrial  
 chemical laboratories.

**CONTENTS:** The book contains 36 articles by articles of the Scientific Researches  
 Institute for Chemical Researches (GKKhR). Existing methods which may be adopted  
 by different branches of industry as production, analytical, and scientific methods  
 grade and organic substances of high purity. Prepared tables and references  
 accompany each article. No permissions are required.

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 in a Number of High Purity Substances 80

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**Tolokon', A.N., G.B. Lazarevskii, and I.S. Sizunova.** On the Problem of An-  
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 Organic Luminescent Indicators and Reagents 146

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1A/m/esp

14)

L 9631-66 EWT(d)/EWP(1) IJP(c)

SOURCE CODE: UR/0040/65/U29/006/1084/1091

ACC NR: AP6000546

44, 55

AUTHOR: Plotnikova, G. V. (Moscow)

30

B

ORG: none

TITLE: On stability of periodic solution of a nonisolated quasi-linear system with two degrees of freedom

SOURCE: Prikladnaya matematika i mekhanika, v. 29, no. 6, 1965, 1084-1091

TOPIC TAGS: nonlinear mechanics, harmonic oscillation, asymptotic property, approximation method, stability criterion

16, 44, 55

ABSTRACT: Conditions are obtained for the asymptotic stability of the periodic solution of a nonisolated quasi-linear system with two degrees of freedom. The analysis is restricted to the case of principal resonance with a single resonance frequency corresponding to simple and double roots of the fundamental amplitude equation. The oscillating system is defined by

$$x'' + k^2 x = f^{(1)}(t) + \mu F^{(1)}(t, x, x', y, y', \mu)$$

$$y'' + \omega^2 y = f^{(2)}(t) + \mu F^{(2)}(t, x, x', y, y', \mu)$$

where the  $f$ 's are continuous functions of period  $2\pi$  and the  $F$ 's are analytic in the variables  $x, \dot{x}, y, \dot{y}, \mu$ . The initial condition for the system is given by

$$x(0) = f_0^{(1)}(0) + A_0 + \beta_1, \quad y(0) = f_0^{(2)}(0) + \psi_1$$

$$x'(0) = f_0^{(1)'}(0) + B_0 + \beta_2, \quad y'(0) = f_0^{(2)'}(0) + \psi_2.$$

Card 1/3

Z

L 9631-66

ACC NR: AP6000546

It is shown that for each simple root of the fundamental amplitude equation there corresponds a periodic solution in integer powers of  $\mu$  and to the case of double roots--two periodic solutions in powers of either  $\mu$  or  $\mu^{\frac{1}{2}}$ , i.e.,

$$x^{(r)}(t) = \sum_{n=0}^{\infty} x_{n,r}(t) \mu^{n\beta}, \quad y^{(r)}(t) = \sum_{n=0}^{\infty} y_{n,r}(t) \mu^{n\beta}.$$

To calculate the characteristic index  $\alpha$  of the above system in resonance, the following is defined

$$\alpha = \sum_{n=1}^{\infty} a_{n,r} \mu^{n\beta}$$

and two amplitude equations are obtained

$$M_0 \left( \frac{\partial C_1^{(1)}}{\partial A_0} - 2\pi a_1 \right) + N_0 \left( \frac{\partial C_1^{(1)}}{\partial B_0} \right) = 0, \quad M_0 \frac{\partial C_1^{(1)}}{\partial A_0} + N_0 \left( \frac{\partial C_1^{(1)}}{\partial B_0} - 2\pi a_1 \right) = 0.$$

For a nontrivial solution of these amplitude equations, the following necessary and sufficient conditions are given

$$4\pi^2 a_1^2 - 2\pi \left( \frac{\partial C_1^{(1)}}{\partial A_0} + \frac{\partial C_1^{(1)}}{\partial B_0} \right) a_1 + \Delta^0 = 0, \quad \Delta^0 = \frac{\theta(C_1^{(1)}, C_1^{(1)})}{\theta(A_0, B_0)}$$

and three particular cases are discussed:  $\Delta_1^0 \neq 0$ ,  $\Delta_1^0 = 0$ , and  $a_1 = a_2$ ,  $K^0 \neq 0$ .

For the resonance solution, analogous results are obtained to the case of a single degree-of-freedom problem and the stability criterion is expressed by

$$\int (F_y^{(n)})_0 dt < 0.$$

Card 2/3

L 9631-66  
ACC NR: AP6000546

Numerical examples are given to illustrate the above analysis. Orig. art. has:  
35 equations.

SUB CODE: 20, 12/ SUBM DATE: 13Feb65/ ORIG REF: 005

Card 3/3

BAYNOV, D.D. (Sofiya, Bolgariya); MARINOV, Yul.P. (Sofiya, Bolgariya);  
PLOTNIKOVA, G.V. (Moskva)

Periodic oscillations of an auto-oscillator with n-oscillating  
circuits. Inzh. zhur. 5 no.3:395-398 '65. (MIRA 18:7)

40112

S/040/62/026/004/008/013  
D409/D301

24.4/00

AUTHOR: Plotnikova, G.V. (Moscow)

TITLE: On constructing periodic solutions of non-autonomous quasilinear systems with one degree of freedom in the neighborhood of resonance, in the case of double roots of the fundamental-amplitude equation

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 4,  
1962, 749 - 755TEXT: The periodic solutions of non-autonomous quasilinear systems are constructed in the form of series in integral powers of the small parameter  $\mu$ , as well as in powers of  $\mu^{1/2}$ . The non-autonomous oscillatory system with one degree of freedom

$$\frac{d^2x}{dt^2} + m^2x = f(t) + \mu F(t, x, \frac{dx}{dt}, \mu) \quad (1.1)$$

is considered;  $\mu$  is a small positive parameter. The function  $f(t)$  is a continuous periodic function with period  $2\pi$ ; the function  $F$  is

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S/040/62/026/004/008/C13  
D409/D301

On constructing periodic solutions ...

analytic in the variables,  $x$ ,  $\dot{x}$  and  $\mu$  and also a periodic function of  $t$ . The periodic solutions of system (1.1) which pass (for  $\mu = 0$ ) into the general solution  $x_0(t)$ , are sought by Poincare's method;

thereby one takes as the initial conditions

$$x(0) = x_0(0) + \beta_1, \quad \dot{x}(0) = \dot{x}_0(0) + \beta_2,$$

where  $\beta_1$  and  $\beta_2$  are functions of  $\mu$  which are equal to zero for  $\mu = 0$ . The problem reduces to determining the conditions of existence and to the actual construction of the two implicit functions  $\beta_1$  and  $\beta_2$  of the variable  $\mu$ . The constants  $A_0$  and  $B_0$  of the solution  $x_0(t)$  are determined from the equation of the fundamental amplitudes

$$c_1(2) = 0, \quad \dot{c}_1(2) = 0. \quad (1.5)$$

The determinants

$$\Delta = \begin{vmatrix} \partial c_1 / \partial A_0 & \partial c_1 / \partial B_0 \\ \partial \dot{c}_1 / \partial A_0 & \partial \dot{c}_1 / \partial B_0 \end{vmatrix}, \quad \Delta_1 = \begin{vmatrix} \partial c_1 / \partial B_0 & c_2 \\ \partial \dot{c}_1 / \partial B_0 & \dot{c}_2 \end{vmatrix}$$

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S/040/62/026/004/008/013  
D409/D301

On constructing periodic solutions ...

are considered. The condition  $\Delta = 0$  signifies that Eq. (1.5) has multiple roots; the case of double roots is considered. The two implicit functions  $\beta_1$  and  $\beta_2$  are expanded in convergent series in powers of  $\mu$  or  $\mu^{1/2}$ . After calculations one obtains the following expansion for  $\beta_1$

$$\begin{aligned} N_{10}\mu + N_{20}\mu^2 + N_{11}\mu\beta_1 + N_{02}\beta_1^2 + N_{30}\mu^3 + N_{21}\mu^2\beta_1 + N_{12}\mu\beta_1^2 + \\ + N_{03}\beta_1^3 + \dots = 0. \end{aligned} \quad (2.6)$$

Depending on whether  $\Delta_1 = 0$  or  $\Delta_1 \neq 0$ , various types of expansions for  $\beta_1$  and  $\beta_2$  exist. In practice, the periodic solutions of Eq. (1.1) are found as follows: There exist real expansions of the periodic solutions of system (1.1) of type

$$x(1) = \sum_{n=1}^{m-1} x_{n+1}(1)\mu^{n/2} \quad (4.1)$$

Hard 3/4

PIOTRKOWA, G.V. (Monken)

Habilitation of predicted action for management of local utility  
involving both defense of freedom, public safety, health, etc.  
no. 611002/61091 - Rep. 100%  
(HHR-100%)

1. Submitted February 13, 1965.

L 54884-55 EWP(w) EM

ACCESSION NR: AP5014661

RU/0019/65/010/002/0371/0378

9  
BB

AUTHOR: Plotnikova, G. V.; Baynov, D. D.

TITLE: Periodic oscillations<sup>24</sup> of a mechanical system with n degrees of freedom in the presence of resonance frequencies

SOURCE: Revue Roumaine des sciences techniques. Serie de mecanique appliquee, v. 10, no. 2, 1965, 371-378

TOPIC TAUGHT: oscillation theory; mechanical system oscillation; periodic oscillation; periodic solution

ABSTRACT: A mechanical system with n degrees of freedom which motion is described by the system of equations

where it is a small parameter with the term that contains it is studied under the assumption that  $\epsilon$  is a periodic function of time with respect to  $\omega_k$ ,  $x_k$ , and  $v$  and continuous, periodic functions of time

Card 1/2

L 54884-63

ACCESSION NR: AP5014661

with the period  $2\pi$ . The periodic solution of system (1) with the period  $2\pi$  is sought, which at  $\mu = 0$  becomes a particular solution of the generating system (system (1) at  $\mu = 0$ ). The general structure of such solutions and the conditions for their existence are established in the case of  $1 \leq n$  resonance frequencies. The solution of (1) is obtained in the form of the series

$$x_k(t) = x_{k0}(t) + \mu x_{k1}(t) + \mu^2 x_{k2}(t) + \dots, \quad (k = 1, 2, \dots, n), \quad (2)$$

and the procedure for calculating its coefficients  $x_{ks}(t)$  ( $k = 1, 2, \dots, n$ ;  $s = 1, 2, 3, \dots$ ) is described. Orig. art. has: 31 formulas.

[LK]

## ASSOCIATION:

Mashino-elektrrotekhnicheskiy institut, Sofiya (Mechanical and Electrical Engineering Institute)

SUBMITTED: 19Jun64

ENCL: 00

SUB CODE:MEMA

NO REF SOV: 004

OTHER: 000

ATD PRESS: 4031

Card 2/2

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5"

PLOTINKOVA, G. V.

"Stability of periodic solutions of non-self-contained quasilinear systems with one degree of freedom in the case of a double root of the principal amplitude equation,"

Report presented at the Conference on Applied Stability-of-Motion Theory and Analytical Mechanics Moscow August 1963

PLOTNIKOVA, G. V. (Moskva)

Stability of periodic solutions to autonomous quasi-linear systems with a single degree of freedom. Prikl. mat. i mekh. 27 no.1:168-170 Ja-F '63. (MIRA 16:11)

where  $\mu$  is a small positive parameter,  $f$  is a continuous periodic function of the time  $t$  with period  $2\pi$ , the expansion of which in a Fourier series does not contain an  $m$ th harmonic ( $m$  is an integer);  $F$  is an analytic function with respect to  $x$ ,  $\dot{x}$  and  $\mu$ , and a continuous periodic function with respect to  $t$  with period  $2\pi$ . The solution is of the form

$$x_0(t) = A_0 \cos mt + \frac{B_0}{m} \sin mt + \varphi(t)$$

Card 1/2

On the stability ...

S/040/63/027/001/021/027  
D251/D308

where  $A_0$  and  $B_0$  are arbitrary constants and  $\varphi(t)$  describes the forced oscillations.  $A_0$  and  $B_0$  are determined from the equation of the fundamental amplitudes

$$C_1(2\pi) = -\frac{1}{m} \int_0^{2\pi} F(t, x_0, \dot{x}_0, 0) \sin mt dt = 0 \quad \dot{C}_1(2\pi) = \int_0^{2\pi} F(t, x_0, \dot{x}_0, 0) \cos mt dt = 0 \quad (2)$$

In the case when this equation has a double root, there will be two solutions of (1) which correspond to  $A_0$  and  $B_0$ . These series are calculated in terms of the difference equations

$$\Delta_1 = \frac{\partial C_1}{\partial B_0} \dot{C}_2(2\pi) - \frac{\partial \dot{C}_1}{\partial B_0} C_2(2\pi), \quad \Delta_2 = \frac{\partial \dot{C}_1}{\partial A_0} C_2(2\pi) - \frac{\partial C_1}{\partial A_0} \dot{C}_2(2\pi)$$

on the basis of the author's earlier results (PMM, 1962, v. 26, no. 4). The cases  $\Delta_1 = 0$ ,  $\Delta_2 \neq 0$ , and  $\Delta_1 \neq \Delta_2 \neq 0$  are considered. It is shown that in either case, one of the two solutions will be stable and the other unstable.

Platonova, N.V. (Platonova)

Derivation of periodic solutions to a nonautonomous quasi-linear system with two degrees of freedom. Prikl. mat. i mekh. 27 no. 2:

APPROVED FOR RELEASE: 08/23/2000 CIA-RDP86-00513R001341320011-5"  
2025 RELEASE UNDER E.O. 14176  
(Functions, Periodic) (Linear equations)

PLOTNIKOVA, G.V. (Moskva)

Developing periodic solutions to a nonautonomous quasilinear  
system with two degrees of freedom. Prikl. mat. i mekh. 24:  
no.5:933-937 S.- O '60. (MIRA 14:5)  
(Vibration)

L 05219-67 EWP(6)/EWP(1) TJP(c)  
ACC NR: AP6028318

SOURCE CODE: UR/0040/66/030/004/0636/0649

AUTHOR: Markhashov, L. N. (Moscow); Plotnikova, G. V. (Moscow); Pozharitskiy, G. K. (Moscow)

ORG: none

TITLE: High speed pulse in second order linear systems

SOURCE: Prikladnaya matematika i mehanika, v. 30, no. 4, 1966, 636-649

TOPIC TAGS: optimal control theory, ordinary differential equation, CONTROL THEORY

ABSTRACT: Optimal high speed controls in linear systems with constant coefficients are studied. The control vector is assumed to be one-dimensional and limited by the pulse, i. e., the integral of the control vector module in time does not exceed a certain positive constant  $M$ . The conditions for the existence of high speed controls between the points  $(x_{10}, x_{20})$  and  $(x_1, x_2)$  of phase space are explained. It is shown that if these conditions are fulfilled, high speed control with time  $T$  between these points is realized with the help of pulses

$\mu_1(x_{10}, x_{20}, x_1, x_2)$  and  $\mu_2(x_{10}, x_{20}, x_1, x_2)$ ,

the number of which is not greater than two. The continuous and differentiable conditions for the functions  $T$ ,  $\mu_1$ , and  $\mu_2$  are adduced, along with those for the functions

Card 1/2

PLOTNIKOVA, G. Ye

Organization of nutrition for children in children's institutions. Vop. pit. 22 no.1:92-93 Ja-F'63 (MIRA 16:11)

1. Iz otdela fiziologii, gigiyeny i vospitaniya rebenka Instituta okhrany materinstva i detstva Ministerstva zdravookhraneniya Kazakhskoy SSR, Alma-Ata.

\*

PLOTNIKOVA, G.YE.

PA 228T30

USSR/Medicine - Infectious Diseases

May/Jun 52

"Peculiarities of the Course of Dysentery in Infants During the First Three Months of Life,"  
G. E. Plotnikova, Kazakh SSR Sci Res Inst for the Protection of Mother and Child

"Pediatriya" No 3, pp 30-35

Article is based on materials of the First and Second Children's Clinical Hospitals. The clinical course of dysentery, sources of infection, and diagnosis of the disease in infants during their 1st 3 mos of life are not very well known, article states. In Alma-Ata '58 cases of dysentery in infants were treated successfully, with no deaths. Analysis of the clinical data of the course of dysentery shows that it is common among infants during the 1st month of life. States that some deg of dystrophy was noted in more than half of these infants and complications occurred in more severe cases of the disease.

228T30

PIOTREKOVA, G. Ye. and ROM, F. S.

"Diagnosis and Medical Treatment of Dysentery in Young Children,"  
Zdravoodzhaneniye Kazakhstan, Vol. 4, 1952, pp 41-47.

*- PLOTNIKOVA, G.Ye.*

NIKONOVА, T.N.; PLOTNIKOVA, G.Ye.

Exchange transfusion in a case of poisoning with corrosive  
sublimate in a child. Pediatriia no.6:81-83 N-D '53. (MLRA 7:1)

1. Iz Kazakhskogo nauchno-issledovatel'skogo instituta okhrany  
materinstva i detstva (direktor Kh.Ye.Murzaliyeva).  
(Blood--Transfusion)  
(Mercury--Toxicology)

MURZALIYEVA, Kh.Ye., kandidat meditsinskikh nauk; PLOTNIKOVA, G.Ye.

Problem of therapeutic and preventive measures in intracranial  
hemorrhages in newborn infants. Akush.i gin. no.1:30-33 Ja-F '54.  
(MIRA 7:6)

1. Iz Kazakhskogo nauchno-issledovatel'skogo instituta okhrany materninstva  
i detstva (direktor Kh.Ye.Murzaliyeva, nauchnyy rukovoditel' - kandidat  
meditsinskikh nauk I.N.Nikonova). (Infants (Newborn)) (Brain-Hemorrhage)

PLOTNIKOVA, G.Ye.

Clinical aspects and diagnosis of dysentery in children during their first three months of life. Pediatrilia 39 no.3:33-37 My-Je '56.  
(MIRA 9:9)

1. Iz Kazakhskogo nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. - kandidat meditsinskikh nauk Kh.Ye. Murzaliyeva, nauchnyy rukovoditel' - kandidat meditsinskikh nauk T.N.Nikonova)

(DYSENTERY, in inf. and child  
clin. aspects & diag. in inf. up to age of 3 months)  
(INFANTS NEWBORN, dis.)

dysentery, clin. aspects & diag. in inf. up to age of  
3 months)

APPROVED FOR RELEASE: 08/23/2000 CIA RDP86-00513R001341320011-5"  
(MIRA 14:12)

1. Iz Nauchno-issledovatel'skogo instituta okhrany materinstva i detstva (dir. A. B. Bisenova, nauchnyy rukovoditel' N. A. Barlybayeva).

(THYROID GLAND) (IODINE IN THE BODY)  
(ALMA-ATA--INFANTS(NEWBORN) (FETUS)

"APPROVED FOR RELEASE: 08/23/2000

**CIA-RDP86-00513R001341320011-5**

SHOSTAKOVSKIY, M. F.; BOGDANOVA, A. V.; ZVEREV, M. M.; PLOTNIKOVA, G. I.

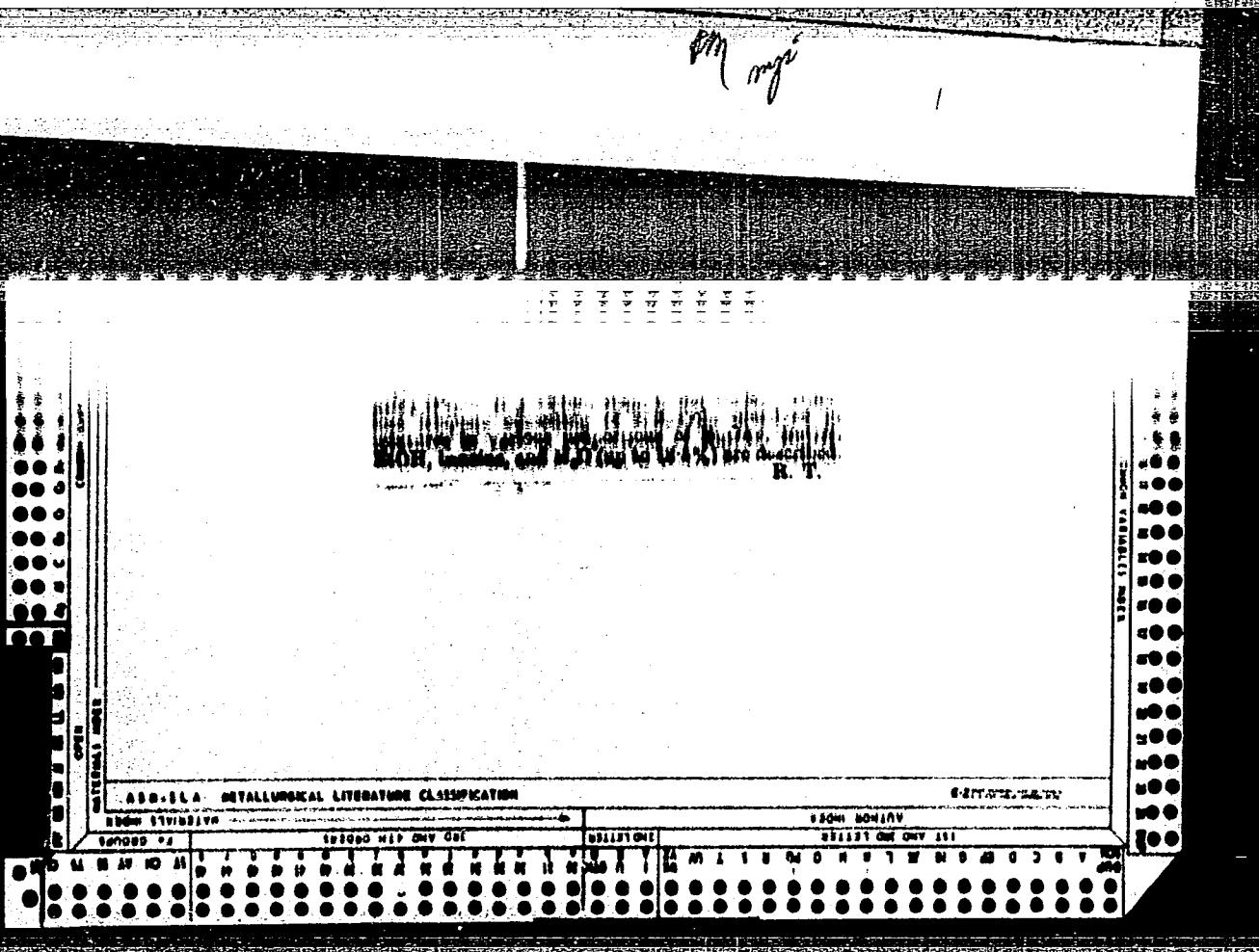
## Recent work on low molecular weight polyacrylates. Part I. Influence of substituents on the properties of polyacrylates

**APPROVED FOR RELEASE: 08/23/2000**

CIA-RDP86-00513R001341320011-5"

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5



APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5"

PLOTNIKOVA, G.P.; MIRKOVICH, R.A.

Advanced technology of furniture finishing and new finishing materials.  
Der. prom. 11 no.9:3-5 S '62. (MIRA 17:2)

1. TSentral'nyy nauchno-issledovatel'skiy institut fanery i mebeli.

PLOTNIKOVA, G.P.

Foamy carbamide Resins. Der.prom. 5 no.12:5-8 D '56. (MLRA 10:1)

1. Tsentral'nyy nauchno-issledovatel'skiy institut fanery i mebeli.  
(Resins, Synthetic)

Water as a component part in simple nitrocellulose varnishes N. V. Aleksandrov and G. S. Plotnikova  
Org. Chem. Ind. (U.S.S.R.) 6, 326-330 (1931) It is shown that the content of water in nitrocellulose varnishes can be increased to 10% on the vol. of the volatile ingredients (100% on the wt. of nitrocellulose) in the presence of  $\text{CH}_3\text{OH}$  without the use of cellosolve or mixts. of  $\text{AcMe}$  and  $\text{MeOH}$ . The resulting films compare favorably with anhydrous lacquers. The varnishes were prep'd. from collaylin 5, dibutyl phthalate 0.9,  $\text{AcOBu}$  (b. 110-115°) 20.45-40.37,  $\text{Bu}_2\text{OH}$  (b. 110-122°) 7.2-10.45,  $\text{RtOH}$  26.12-28.23, aviation gasoline (b. 0.735, b. 62-134°) 0.5-24.1 and water 4.76-9.57%. Chas. Blanc

13,2500

16,3400

87796  
S/040/60/024/005/019/028  
C111/C222

AUTHOR: Plotnikova, G.V. (Moscow)

TITLE: On the Construction of Periodic Solutions of a Non-Autonomous Quasilinear System With Two Degrees of Freedom

PERIODICAL: Prikladnaya matematika i mehanika, 1960, Vol.24, No.5,  
pp.933-937

TEXT: The author considers the system

$$(1.1) \quad \frac{d^2x}{dt^2} + ax+by = f(t)+\mu F, \quad \frac{d^2y}{dt^2} + cx+dy = \varphi(t)+\mu \phi,$$

where  $f$  and  $\varphi$  are continuous,  $2\pi$ -periodic;  $F$  and  $\phi$  are analytic in  $x, x'$ ,  $y, y'$ ,  $\mu$  and continuous and  $2\pi$ -periodic in  $t$ . He investigates the case where the equation

$$\begin{vmatrix} b^2 + a & b \\ b & b^2 + d \end{vmatrix} = 0$$

has two distinct real roots  $b$  ( $b \neq 0$ ) from which it is assumed that the Fourier developments of  $f(t)$  and  $\varphi(t)$  are so that for the  $k$ -th and  $m$ -th harmonics the Fourier coefficients either vanish or have the order of  $\mu$ .

Card 1/4

S/040/60/024/005/019/028  
C111/C222

On the Construction of Periodic Solutions of a Non-Autonomous Quasilinear System With Two Degrees of Freedom

It is shown that if (1.1) has a periodic solution then this solution has the form

$$(2.9) \quad x(t) = x_0(t) + \mu x_1(t) + \mu^2 x_2(t) + \dots, \quad y(t) = y_0(t) + \mu y_1(t) + \mu^2 y_2(t) + \dots$$

where  $x_0(t)$ ,  $y_0(t)$  is the periodic solution of the generating equation ((1.1) with  $\mu = 0$ ), while

$$\begin{aligned} x_1(t) &= A_1 \cos kt + \frac{B_1}{k} \sin kt + E_1 \cos mt + \frac{D_1}{m} \sin mt + C_1^{(k)}(t) + C_1^{(m)}(t) \\ x_2(t) &= A_2 \cos kt + \frac{B_2}{k} \sin kt + E_2 \cos mt + \frac{D_2}{m} \sin mt + \\ &\quad + A_1 \left[ \frac{\partial C_1^{(k)}}{\partial A_0} + \frac{\partial C_1^{(m)}}{\partial A_0} \right] + B_1 \left[ \frac{\partial C_1^{(k)}}{\partial B_0} + \frac{\partial C_1^{(m)}}{\partial B_0} \right] + \\ &\quad + E_1 \left[ \frac{\partial C_1^{(k)}}{\partial E_0} + \frac{\partial C_1^{(m)}}{\partial E_0} \right] + D_1 \left[ \frac{\partial C_1^{(k)}}{\partial D_0} + \frac{\partial C_1^{(m)}}{\partial D_0} \right] + C_2^{(k)}(t) + C_2^{(m)}(t) \end{aligned}$$

Card 2/4

can be determined from a system of equations, while the  $C_1^{(k)}$  and  $C_1^{(m)}$

$$C_1(t) = C_1^{(k)}(t) + C_1^{(m)}(t), \quad H_1(t) = p_k C_1^{(k)}(t) + p_m C_1^{(m)}(t),$$

where  $C_1(t)$  and  $H_1(t)$  are known.

2725

S/040/60/024/005/019/028  
C111/C222

On the Construction of Periodic Solutions of a Non-Autonomous Quasi-linear System With Two Degrees of Freedom

$$C_1'' + aC_1 + bH_1 = F, \quad H_1'' + cC_1 + dH_1 = \phi.$$

A general method for the determination of the further coefficients  $x_2(t)$ ,  $y_2(t)$  of (2.9) is given.

There is 1 Soviet reference.

SUBMITTED: June 15, 1960

Card 4/4

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5

PAJOMKAITIN, G.N.; PIOTRIKINA, I.A.

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CIA-RDP86-00513R001341320011-5"

BOGDASAROV, S.M.; PLOTNIKOVA, I.A.; FAYNBERG, E.S.; FOMIN, A.I.

Acoustic method for preparing emulsions. Avt.dor. 25 no.11:12-  
13 N '62. (MIRA 15:12)  
(Road materials)

PLOTNIKOVA, I. I.

Chemical composition of milk of cows in the Sverdlovsk district.

Gig. sanit., Moskva No. 6, June 50, p. 50-1

I. Of Sverdlovsk Sanitary-Hygienic Institute and of the Department of  
Nutritional Hygiene of Sverdlovsk Medical Institute, Sverdlovsk.

CLML 19, 5, Nov., 1950

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5

REHABILITATION, DR. V. I. BORIS - Medical Institutions - Leningrad

St. Petersburg City Scientific Center for Therapeutic Rehabilitation, University of Leningrad, Leningrad, Russia  
Boris, Boris Ivanovich (Leningrad, Russia) (00000000)

L. I. Institute neurologist (dr.c.-prof. N.V. Konovatov) ABB: Rabb.  
(APHASIA, therapy)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5"

ПРОГРЯММЫ РАБОТЫ

KIREYEVA, A.V.; KULIKOVA, I.M.; PLOTNIKOVA, K.G.; SMIRNOV, N.S., kandidat  
tekhnicheskikh nauk

Preparing a GhM protective admixture for tin pickling. Metallurg  
2 no.1:31 Ja '57. (MLRA 10:4)

1. Severskiy metallurgicheskiy zavod.  
(Tin) (Metals--Pickling)

PLOTNIKOVA, K.I.

Some complications and results of generalized tuberculosis of  
the lymph nodes. Vop. epid. i klin. tub. 5:217-227 '58.  
(MIRA 14:12)  
(LYMPHATICS--TUBERCULOSIS)

PLOTNIKOVA, K.N.; Prinimali uchastiye: GORNAYA, K.A.; SHILINA, L.S.;  
KUZNETSOVA, V.K.; BOGDANOVA, E.I.; BASHILOV, S.F.; TRABER, I.G.;  
KAREVA, M.V.; KUZ'MINA, A.I.

Experience in the production of lavisn-cotton blend yarn in  
the "Trekhgornaya Manufactura" and Kalinin Cotton Mills.  
Nauch.-iss. trudy TSNIKHBI za 1962 g.:166-175 '64.

(MIRA 18:8)

1. TSentral'noy nauchno-issledovatel'skiy institut khlopcatobumazhnay promyshlennosti, Moskva (for Gornaya, Shilina).
2. Kalininskiy nauchno-issledovatel'skiy institut tekatil'noy promshlennosti (for Kuznetsova, Bogdanova). 3. Kalininskiy khlopcatobumazhnyy kombinat (for Bashilov), Traber). 4. Kombinat "Trekhgornaya manufaktura" (for Kareva, Kuzmina).

EXCERPTA MEDICA Sec 8 Vol 9/9 Neurology Sept '56

3687. PLOTNIKOVA L. A. • The amount of cholesterol in various parts of the human brain (Russian text) Z. NEVROPAT. PSIKHIAT. (Mosk.) 1955, 55/4 (282-286) Graphs 1 Tables 3 Illus. 2 Cerebral areas differ with regard to the amount of bound (fixed) cholesterol. The largest amount was found in the thalamus, the smallest in the bulbus olfactorius. Free cholesterol may be identified in cortical fields in but slightly differing quantities. The thalamus differs from all parts of the brain because of its high content both of the free and fixed sterins and the total amount of cholesterol as well. Exact values of various cerebral areas are given in the paper.

Hádlik - Brno (VIII, 2, 5\*)

PLOTNIKOVA, L.I.

Republic conference on public health statistics of the R.S.F.S.R.  
Zdrav. Ros. Feder. 5 no. 3:46 Mr '60. (MIRA 14:2)  
(PUBLIC HEALTH—STATISTICS)

PLOTNIKOVA, L. A.

"Content of Total, Free, and Combined Cholesterin and Moisture in Various Formations of the Human Brain." Thesis for degree of Cand. Biological Sci. Sub 21 Feb 49, Moscow Inst of Fine Chemical Technology imeni M. V. Lomonosov.

Summary 32, 18 Dec 52, Dissertations Presented For Degrees in Science and Engineering in Moscow in 1949. From Vechernyaya Moskva, Jan-Dec 1949.

PLOTNIKOVA, L.A.

Cholesterol content in various formations of the brain in man. Zhur.  
nevr.psikh. 55 no.4:282-286 1955,  
(MIRA 0:7)

1. Насыщенные жирные кислоты и глицериды в мозге, печени, почках, легких.  
2. Состав и количества различных форм холестерина в мозге.  
(ХОЛЕСТЕРИН, метаболиты, жиры)  
(ХОЛОСТИКОЛ, метаболиты, мозг)

LEBEDENKO, Aleksandr Gervas'yevich; PLOTNIKOVA, L.A., red.: LEVONEVSKAYA,  
L.G., tekhn.red.

[Battle with an invisible enemy] Voina s nevidimym vragom.  
Leningrad, Lenizdat, 1961. 124 p. (MIRA 15:2)  
(PAVLOVSKII, EVGENII NIKANOROVICH, 1884- )

PLOTNIKOVA-VARTAZAROVA, L.S.

Growth of Far Eastern trees and shrubs in Moscow. Bilul. Glav. bot.  
sada no.50:18-26 '63. (MIRA 17:1)

1. Glavnnyy botanicheskiy sad AN SSSR.

PLOTNIKOVA, L. A.

The cholesterol content in the different formations of the brain - L. A. Plotnikova, *short*, Associate, I. P. Pavlov's Institute of Physiology (Bulgaria). No substantial differences were found in the moisture content of the various sections of the brain belonging to different analyzers. Generally, however, considerably less moisture was found in the subcortical formations and considerably more in the olfactory bulb than in the cortical formations of the brain. The cholesterol (I) content of the different sections of the cerebrum varied greatly. The highest was found in the visual nodes and the lowest in the olfactory bulb. Generally, by far the greater part of the total I consisted of free I. Sections of the brain cortex, including the sections which constitute the nuclei of the analyzers, differ only slightly or not at all in their total and free I content.

B. S. Levine

"APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5

PLOTNIKOV, L.A.; BAYSOGOLOV, G.P. (Moskva)

Effect of Na<sub>3</sub>Ca-DTPA (pentacine) on excretion of Pu-<sup>239</sup> from the  
human body. Med. rad. 9 no.1:49-53 Ja '64. (MIRA 17:9)

APPROVED FOR RELEASE: 08/23/2000

CIA-RDP86-00513R001341320011-5"

PLOTNIKOVA, L.F. [Plotnykova, L.F.]

New species of Upper Cretaceous foraminifers in the Konksko-Yalynskaya trough and Black Sea region. Geol.zhur. 22 no.6: 46-58 '62. (MIRA 16:2)

1. Institut geologicheskikh nauk AN UkrSSR.  
(Ukraine—Foraminifera, Fossil)

LIPNIK, O.S. [Lypnyk, O.S.]; PLOTNIKOVA, L.F. [Plotnykova, L.F.]

Second Conference on the Mesozoic Microfauna of the Russian  
Platform. Geol.zhur. 22 no.6:92 '62. (MIRA 16:2)  
(Russian Platform—Micropaleontology)